



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,631	08/03/2006	Gerald Adams	J3713(C)	5500
201 7590 07/21/2010 UNILEVER PATENT GROUP 800 SYLVAN AVENUE AG West S. Wing ENGLEWOOD CLIFFS, NJ 07632-3100				
EXAMINER LEA, CHRISTOPHER RAYMOND				
ART UNIT		PAPER NUMBER		
1619				
NOTIFICATION DATE		DELIVERY MODE		
07/21/2010		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentgroupus@unilever.com

Office Action Summary

Application No.

10/551,631

Applicant(s)

ADAMS ET AL.

Examiner

Christopher R. Lea

Art Unit

1619

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 August 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,7-10,12-15 and 17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,7-10,12-15 and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB06)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This application is a 371 (national stage application) of PCT/EP04/02852.

The examiner of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Examiner Christopher Lea in Art Unit 1619.

Receipt of Amendments/Remarks filed on August 11, 2009, is acknowledged. In response to Non-final office action dated May 12, 2009, applicant amended claims 1 & 4 and added no new claims. Claims 1, 2, 4, 7-10, 12-15, & 17 are pending. Claims 1, 2, 4, 7-10, 12-15, & 17 are under examination.

Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1, 2, 4, 7-10, 12-15, & 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Papantoniou et al. (US Patent 4,030,512) in view of Frechet et al. (WO 02/28357).

Applicant claims

Applicant claims a hair care composition comprising a cosmetically acceptable carrier and an ABA block copolymer where the A blocks are poly(aminoalkylmethacrylate) and the B block is derived from vinyl acetate, wherein the

A blocks each have molecular weight from 1,000-20,000 Da and the B block has molecular weight of 1,000-30,000 Da.

**Determination of the scope and content of the prior art
(MPEP 2141.01)**

Papantoniou et al. teach, as a whole, hair compositions comprising a carrier and a bi- or tri-sequenced (i.e. di- or tri-block) copolymer (abstract).

Claims 1, 2, 4, 7 & 9: Papantoniou et al. teach a hair-styling composition based on sequenced copolymers containing 2 or 3 sequences (blocks) (column 1, lines 29-45). Papantoniou et al. teach that the (A) sequence is based on an acrylate monomer (column 1, line 46 through column 2 line 6 and formula I). Papantoniou et al. specifically teach 2-(N,N-dimethylamino)ethyl methacrylate among the monomers of the (A) sequence (column 3, lines 22-27). Papantoniou et al. teach that the (B) sequence can be made of monomers that include various vinyl and (meth)acrylate monomers (column 3, lines 28-39). Papantoniou et al. teach that the polymer may be formulated in a cosmetic composition containing a carrier such as ethanol (column 4, lines 17-26). Papantoniou et al. teach that the molecular weight of the copolymer depends on the "ultimate use of the copolymer" (column 4, line 1-7) and can be ultimately between 1,000 and 1,000,000 Daltons, preferably between 2,000 and 300,000 Daltons (column 4, lines 8-11). As such, the ordinarily skilled artisan is able to optimize the molecular weight (size) of the blocks to obtain the desired properties of the bulk copolymer.

Claims 8: Papantoniou et al. teach that the composition may further contain perfumes (column 4, lines 33-38).

Claim 10: Papantoniou et al. teach that the composition contains 0.2-5% copolymer (column 4, lines 19-20).

Claim 12: Papantoniou et al. teach that the composition may further contain anionic, cationic, or nonionic products (surfactants) (column 4, lines 33-38). Though Papantoniou et al. is silent as to the amounts of these compounds to be used, the ordinarily skilled artisan is clearly able to determine the amount of surfactant necessary to impart the desired hair styling properties to the composition.

Claim 13: Papantoniou et al. teach that the composition may be formulated as an aerosol containing 60-99.8% propellant (column 4, lines 22-25). Though this is outside the claimed range, the ordinarily skilled artisan is clearly able to determine the amount of propellant necessary to administer the composition from the container.

Claim 14: Papantoniou et al. teach that the composition may be formulated as a lotion (column 4, lines 27-32). Papantoniou et al. teach that the composition can contain thickening agents (column 4, lines 36), and, though Papantoniou et al. is silent as to the amounts of thickener to be used, the ordinarily skilled artisan is clearly able to determine the amount of thickening agent necessary to impart the desired viscosity to the composition.

Claim 15: Papantoniou et al. teach that the composition is useful for styling hair, which is carried out by applying the composition to hair (column 4, lines 51-65).

Claim 17: As to the divalent linker between blocks, nothing in the claims prevents the terminal monomer of a block from being considered a divalent linker.

**Ascertainment of the difference between the prior art and the claims
(MPEP 2141.02)**

The difference between the teachings of Papantoniou et al. and the instant claims is that Papantoniou et al. does not teach vinyl acetate as the (B) block of the tri-block copolymer. This deficiency in Papantoniou et al. is cured by the teachings of Frechet et al.

Frechet et al. teach, as a whole, hair styling composition containing tri-block copolymers in cosmetically acceptable carriers (abstract).

Claims 1, 2, 4, 8-10, 12-15, & 17: Frechet et al. teach a cosmetic composition that contains a block copolymer made of a core polymer and two or more flanking copolymer (i.e. an ABA block copolymer) (page 6, last paragraph). Frechet et al. teach that the core and flanking polymers are chosen such that the overall copolymer has a balanced hydrophilic/hydrophobic character (page 9, third paragraph). Frechet et al. teach that the core polymer typically has molecular weight of 100 to 10,000,000 Da, while the flanking polymers typically have molecular weight of 80 to 500,000 Da (page 10, first full paragraph). Frechet et al. teach vinyl acetate (page 18, line 7) among the more preferred monomers for use in the invention. Frechet et al. teach N,N-dimethylaminoethyl methacrylate (page 18, spanning lines 18 & 19) among the even more preferred monomers for use in the invention. Frechet et al. teach the hair care compositions of the invention comprise the copolymer and a carrier (page 29, last paragraph through page 30, second full paragraph).

Claim 7: Frechet et al. teach that the block copolymers of the invention are soluble in water at a level of at least 1% by weight (page 9, third and last paragraphs).

**Finding of *prima facie* obviousness
Rationale and Motivation (MPEP 2142-2143)**

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the claimed invention was made to use vinyl acetate as taught by Frechet et al. as the (B) block in the ABA tri-block copolymer of Papantoniou et al. and produce the instant invention. The skilled artisan would have been motivated to use vinyl acetate as the (B) block because Frechet et al. teach that vinyl acetate is suitable for use as a monomer in hair styling tri-block copolymer and that a balance of hydrophobic and hydrophilic character so as to make the polymer soluble in water and/or ethanol (*supra*). Additionally, it is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, namely using tri-block copolymers for styling hair, in order to form a third composition to be used for the very same purpose. The idea of combining them flows logically from their having been individually taught in the prior art (See *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980) and MPEP § 2144.06).

From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in using vinyl acetate as taught by Frechet et al. as the (B) block in the ABA tri-block copolymer of Papantoniou et al. and producing the claimed invention. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

Additionally, the evidence provided by applicant, i.e. the examples in the specification, does not establish any unexpected results. The comparative examples presented by applicant are not as close as to the claimed invention as the closest prior art, namely Papantoniou et al. which clearly teaches an ABA block copolymer with N.N-dimethylaminoethyl methacrylate as the (A) blocks. As such, applicant has not provided evidence that the difference between the prior art and the claimed invention, namely the use of vinyl acetate as the (B) block, is responsible for any unexpected results.

In light of the forgoing discussion, one of ordinary skill in the art would have concluded that the subject matter defined by the instant claims would have been obvious within the meaning of 35 USC 103(a).

Conclusion

Claims 1, 2, 4, 7-10, 12-15, &17 are rejected. No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Lea whose telephone number is (571) 270-5870. The examiner can normally be reached on Mon-Fri 7:30-3:30 ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yvonne "Bonnie" Eyler can be reached on (571)272-0871. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/YVONNE L. EYLER/
Supervisory Patent Examiner, Art Unit 1619

/C. R. L./
Examiner, Art Unit 1619

crl